UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,259	05/04/2001	Daniel R. Jeske	2925-0575P	6336

30594	7590	11/13/2006

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EXAMINER
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ART UNIT	PAPER NUMBER
2611	

DATE MAILED: 11/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/848,259	JESKE ET AL.
	Examiner	Art Unit
	Cicely Ware	2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _21 August 2006_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-5_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-5_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed 8/21/2006 have been fully considered but they are not persuasive.

Applicant asserts in **REMARKS** pg. 5 of 7 that "Fig. 2 and on Pg. 5, lines 15-16, a demodulator and estimator 6 receives data samples. The multiplier 8 multiplies the data symbol sample by the estimated polarity; thus creating quasi-pilot symbol samples. Pg. 5 lines 15-16, discloses that an SINR estimator 12 estimates the SINR using the output (quasi-pilot symbol samples) of the multiplier 8. If pg. 5 lines 4-6 specifically discloses that data symbols are converted into quasi-pilot symbols, is it not logical the specification discloses that the SINR estimator estimates the SINR using the quasi-pilot symbol samples".

Examiner disagrees. Examiner asserts that On Pg. 5 of applicant's disclosure, applicant **does not** disclose "generating an SINR estimate based on the quasi-pilot symbol samples", nor does applicant disclose "that an SINR estimator 12 estimates the SINR using the output (quasi-pilot symbol samples), nor does applicant disclose "the multiplier 8 multiplies the data symbol sample by the estimated polarity; thus creating quasi-pilot symbol samples" as recited in applicant's **REMARKS** submitted on 3/27/2006 and 8/21/2006.

Examiner asserts that on Pg. 5, lines 16-17, applicant actually recites "The SINR estimator 12 can employ any well-known SINR estimator that generates an SINR estimate based on pilot symbols". Nowhere in the recitation of lines 15-16 is the

mentioning of quasi-pilot symbol samples. This procedure is not well known in the art and is not explicitly stated with applicant's disclosure. Examiner asserts that applicant must explicitly disclose the process of generating an SINR estimate based on the quasi-pilot symbol samples.

When reading a specification the examiner does not infer nor create a logical assumption as to what the applicant is or wants to disclose. Examiner cannot search on inferences. If the procedure is not well known, which in this case it is not, it is up to the applicant to explicitly disclose all elements he wants considered in view of the claims. It is true that pg. 5, lines 4-6 recite "data symbols are converted into quasi-pilot symbols". However a quasi-pilot symbol sample is not a pilot sample. In which, applicant does disclose and recites on pg. 5 lines 15-16, "The SINR estimator 12 can employ any well-known SINR estimator that generates an SINR estimate based on pilot symbols". Once again examiner asserts that a quasi-pilot symbol sample is not a pilot sample.

It is not logical that the specification discloses "that the SINR estimator estimates the SINR using the quasi-pilot symbol samples", **REMARKS**, pg. 5. If that was the case the examiner would not have an argument. Examiner reads the specification as it is submitted, not on what applicant wants to disclose or thinks is logical.

Therefore the rejection to claim 5 stands.

2.   With regard to claims 1-4, examiner agrees with applicant that Stansell, Jr. does not cure the deficiencies of claim 1.

However examiner asserts that Fukuara discloses wherein "the SINR estimate is

not dependent only on the polarities of the plurality of received data symbol samples":

Claim Rejections - 35 USC § 112

3.   Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the enablement requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the

invention.

Examiner asserts that applicant contradicts himself with the elements of claim 5 and

the recitation on Pg. 5 of the disclosure. On Pg. 5 of the disclosure applicant asserts

that "The quasi-pilot symbols are essentially independent of the (unknown) data symbol

polarities". However in Claim 5 applicant claims "quasi-pilot symbol samples based on

the estimated polarities". Hence, the claim recitation does not match the disclosure

submitted by applicant. Therefore examiner takes the position wherein pilot symbols are

based on the estimated polarities, which is what is claimed in Claim 5.

4.   Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the enablement requirement. The claim(s) contains subject matter, which was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 5 recites "generating an SINR estimate based on the quasi-pilot symbol

samples". Examiner is unable to find support for this limitation in the claim. Therefore

claim 5 has not been further treated on the merits.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by

Fukuhara (US Patent 4,627,103).

(1) With regard to claim 1, Fukuhara discloses in (Fig. 3 and Figs. 4, 9, 10) a

method of estimating a signal-to-noise ratio (SINR), comprising: estimating polarities of

a plurality of received data symbol samples (3); and generating an SINR estimate (Fig.

4, (10)) based on the plurality of received data symbol samples and the estimated

polarities of the plurality of received data symbol samples such that the SINR estimate

is not dependent only on the polarities of the plurality of received data symbol samples

(col. 1, lines 43-52, col. 5, lines 60-68 – col. 6, lines 1-68, col. 7, lines 16-68, col. 8, lines

1-68, col. 9, lines 1-68, col. 10, lines 1-8).

(2) With regard to claim 3, claim 3 inherits all the limitations of claim 1. Fukuhara

further discloses in (Figs. 4, 9, 10) estimating bit values (4) of a plurality of received data

symbol samples (8, 3) (col. 1, lines 43-52, col. 3, lines 23-29, col. 10, lines 21-31).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fukuhara (US Patent 4,627,103) as applied to claim 1, in view of Stansell, Jr. (US

Patent 6,160,841).

(1) With regard to claim 2, claim 2 inherits all the limitations of claim 1. However

Fukuhara does not disclose wherein the generating step multiplies each of the plurality

of received data symbol sample by an associated estimated polarity and generates the

SINR estimate using the multiplication results as data symbol samples in an SINR

estimation algorithm.

However Stansell, Jr. et al. discloses wherein the generating step multiplies each

of the plurality of received data symbol sample by an associated estimated polarity and

generates the SINR estimate using the multiplication results as data symbol samples in

an SINR estimation algorithm (col. 6, lines 34-67, col. 7, lines 12-67, col. 8, lines 56-67,

col. 9, lines 14-31, col. 35, lines 38-67 – col. 36 lines 1-67, col. 37, lines 1-6).

Therefore it would have been obvious to one of ordinary skill in the art to modify

Fukuhara in view of Stansell, Jr. to incorporate wherein the generating step multiplies

each of the plurality of received data symbol sample by an associated estimated polarity

and generates the SINR estimate using the multiplication results as data symbol

samples in an SINR estimation algorithm because the Costas loop will lock and track

successfully at either zero or 180 degrees of input phase (Stansell, Jr., col. 35, lines 59-

63).

(2) With regard to claim 4, claim 4 inherits all the limitations of claim 1. Stansell,

Jr. et al. further discloses wherein the generating step multiplies each of the plurality of

received data symbol sample by an associated estimated bit value and generates the

SINR estimate using the multiplication results as data symbol samples in an SINR

estimation algorithm (col. 35, lines 38-67 – col. 36 lines 1-67, col. 37, lines 1-6).

9.   Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over

McCallister et al. (US Patent 5,878,085) in view of Applicant's Admitted Prior Art.

With regard to claim 5, McCallister et al. discloses estimating polarities of a

plurality of received data symbol samples; converting the received data symbol samples

into quasi-pilot symbol samples based on the estimated polarities (col. 2, lines 19-23,

col. 6, lines 4-8, col. 9, lines 3-54).

However McCallister et al. does not disclose generating an SINR estimate based

on the quasi-pilot symbol samples.

However Applicant's Admitted Prior Art discloses generating an SINR estimate

based on the quasi-pilot symbol samples (Pg. 5, lines 16-17).

Examiner asserts that due to the contradiction of quasi-pilot symbol samples

being independent of estimated polarities. Examiner takes the position wherein the pilot

symbol samples are based on estimated polarities as in claim 5.

Examiner asserts that because applicant does not provide a definition for "quasi-pilot symbol samples", examiner assumes quasi-pilot symbol samples as pilot symbol samples.

Conclusion

10.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cicely Ware whose telephone number is 571-272-3047. The examiner can normally be reached on Monday – Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammed Ghayour can be reached on 571-272-3021. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cicely Ware

cqw
November 8, 2006
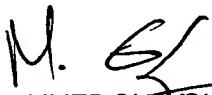
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